Amendments to the Specification

Please replace the paragraph at page 35, lines 6 through 21 with the following amended paragraph:

The skilled artisan could envision several ways that the binding of the cholinergic agonist to the α7 receptor on a cell could be inhibited. Examples include treatment of the cell with an α7 antagonist; treating the cell with an antibody or aptamer that binds to the α7 receptor, preventing binding of the cholinergic agonist to the receptor; or, preferably, treating the cell with an antisense oligonucleotide or mimetic that is complementary to the α7 mRNA and capable of inhibiting translation of the mRNA to the α7 receptor. See Example 1 for evidence of the effectiveness of such an antisense mimetic. As used herein, a mimetic is an oligonucleotide analog that differs chemically from a naturally occurring oligonucleotide, but that is capable of oligonucleotide-like noncovalent binding to a complementary nucleotide sequence. See, e.g., U.S. Patent 6,436,909 for a discussion of useful mimetics. In preferred embodiments, the agent is a phosphorothionate oligonucleotide mimetic, complementary to the relevant α7 gene. The α7 gene is provided, e.g., in Peng et al., 1994. An example of a useful antisense sequence is 5'-gcagcgcatgttgagtcccg-3' (SEQ ID NO: 19) (see Example 1) or a similar sequence, preferably surrounding the translation initiation codon of the human α7 subunit gene.

Please replace the paragraph at page 35, lines 22 through 29 with the following amended paragraph:

Thus, the invention is also directed to oligonucleotides or mimetics capable of inhibiting attenuation of lipopolysaccharide-induced TNF release from a mammalian macrophage upon exposure of the macrophage to a cholinergic agonist. The oligonucleotides or mimetics comprise a sequence greater than 5 nucleotides long that is complementary to an mRNA of an α7 receptor. Preferably, the oligonucleotides or mimetics are complementary to the transcription initiation region of the α7 mRNA. Most preferably, the oligonucleotide or mimetic comprises the sequence 5'-gcagcgcatgttgagtcccg-3' (SEQ ID NO: 19) .

Please replace the paragraph at page 42, line 8 through page 43, line 2 with the following amended paragraph:

RT-PCR. Total RNA was prepared from *in vitro* differentiated human macrophages using TRIzol reagent. Reverse transcription and first round of PCR were performed using Titan One Tube RT-PCR Kit (Roche Molecular Biochemicals) according to the manufacturer's protocol. The second round of nested PCR was conducted using Promega 2x PCR master mix. The PCR products from nested PCR were electrophoresed on an agarose gel and recovered using the Gene Clean III Kit (Biolab) and sent for sequencing to confirm the results. The primer sets for reverse transcription and first round of PCR were: α1: sense primer 5'-CCAGACCTGAGCAACTTCATGG-3' (SEQ ID No: 1), antisense primer 5'-AATGAGTCGACCTGCAAACACG-3' (SEQ ID NO: 2); α : sense primer 5'-GACTGTTCGTTTCCCAGATGG-3' (SEQ ID NO: 3), antisense primer 5'-ACGAAGTTGGGAGCCGACATCA-3' (SEQ ID NO: 4); α9: sense primer 5'-CGAGATCAGTACGATGGCCTAG-3' (SEQ ID NO: 5), antisense primer 5'-TCTGTGACTAATCCGCTCTTGC-3' (SEQ ID NO: 6). The primer sets for nested PCR were: α1: sense primer 5'-ATCACCTACCACTTCGTCATGC-3' (SEQ ID NO: 7), antisense primer 5'- GTATGTGGTCCATCACCATTGC-3' (SEQ ID NO: 8); α7: sense primer 5'-CCCGGCAAGAGGAGTGAAAGGT-3' (SEQ ID NO: 9); antisense primer 5'-TGCAGATGATGGTGAAGACC-3' (SEQ ID NO: 10); α : sense primer 5'-AGAGCCTGTGAACACCAATGTGG-3' (SEQ ID NO: 11), antisense primer 5'-ATGACTTTCGCCACCTTCTTCC-3' (SEQ ID NO: 12). For cloning of the full-length α7 cDNA, the following primers were used: 5' AGGTGCCTCTGTGGCCGCA 3' (SEQ ID NO: 13) with 5' GACTACTCAG-TGGCCCTG 3' (SEQ ID NO: 14); 5' CGACACGGAGACGTGGAG 3' (SEQ ID NO: 15) with 5' GGTACGGATG-TGCCAAGGAGT 3' (SEQ ID NO: 16); 5' CAAGGATCCGGACTCAACATGCGCTGCTCG 3' (SEQ ID NO: 17) with 5' CGGCTCGAGTCACCAGTGTGGTTACGCAAAGTC 3' (SEQ ID NO: 18).

Please replace the paragraph at page 43, lines 14 through 28 with the following amended paragraph:

Antisense oligonucleotide experiments. Phosphorothioate antisense oligonucleotides were synthesized and purified by Genosys. The sequences of the oligonucleotides are: ASα7: 5'-gcagcgcatgttgagtcccg-3' (SEQ ID NO: 19); ASα1: 5'-gggctccatgggctaccgga-3' (SEQ ID NO: 20); ASα10: 5'-ccccatggccctggcactgc-3' (SEQ ID NO: 21). These sequences cover the divergent translation initiation regions of α7, α1 and α10 genes. Delivery of the antisense oligonucleotides was carried out as in Cohen et al. (1997) at 1 μM concentration of the oligonucleotides for 24 h. For cell culture experiments, the oligonucleotide-pretreated macrophage cultures were washed with fresh medium and stimulated with 100 ng ml^{-1} LPS with or without nicotine (1 μM, added 5-10 min before LPS). Four hours after LPS, the amounts of TNF released were measured by L929 assay and then verified by TNF ELISA. For α-bungarotoxin staining, pretreated cells were washed and processed for FITC-α-bungarotoxin staining as described above. Nicotine and other nicotinic acetylcholine receptor α7 subunit agonists also significantly inhibit LPS-induced TNF release in the murine macrophage-like cell line RAW264.7 (data not shown).